

Application No.: 10/683827  
Docket No.: AD6944USNA

Page 2

Claims

1. (cancelled)
2. (cancelled)
3. (cancelled)
4. (previously presented) The multi-layer polymer composition of claim 17 wherein the adhesive tie layer comprises about 25-65% by weight component (a), up to 65% by weight component (b) and about 10-50% by weight component (c), wherein all percentages are based on the total weight of the adhesive tie layer.
5. (previously presented) The multi-layer polymer composition of claim 17 wherein the adhesive tie layer comprises about 25-65% component (a), about 25-65% by weight component (b) and about 10-50% by weight component (c), wherein all percentages are based on the total weight of the adhesive tie layer.
6. (previously presented) The multi-layer polymer composition of claim 17 wherein the first outer layer comprises a polar polymer selected from the group consisting of: polyvinylchloride homopolymer and copolymers, acrylonitrile-butadiene-styrene (ABS), polyvinylidene dichloride (PVDC), poly(ethylene terephthalate) (PET) homopolymer or copolymers, polyamides, polycarbonate, ethylene vinyl alcohol homopolymer and copolymers, acid copolymers, ionomers, liquid crystalline polymers, polyacetals, acetal copolymers, and polylactic acid.
7. (previously presented) The multi-layer polymer composition of claim 17 wherein the second outer layer comprises a non-polar polymer selected from the group consisting of: polypropylene homopolymer and copolymers, and polyethylene homopolymer and copolymers.
8. (previously presented) The multi-layer polymer composition of claim 17 wherein the copolyester elastomer comprises a segmented thermoplastic ether-ester elastomer exhibiting a shore D hardness of about 55 or less and having soft segments comprising polytetramethylene glycol (PTMEG).
9. (cancelled)
10. (previously presented) The multi-layer polymer composition of claim 17 wherein the first outer layer comprises PVC and the second outer layer comprises polypropylene homopolymer.
11. (cancelled).
12. (cancelled).

Application No.: 10/683827  
Docket No.: AD6944USNA

Page 3

13. (previously presented) Exterior siding for buildings comprising the multi-layer polymer composition of claim 17.

14. (previously presented) The exterior siding of claim 13 wherein the first outer layer of said multi-layer polymer composition comprises PVC and said first outer layer comprises the exterior surface of the siding.

15. (previously presented) An article comprising the multi-layer polymer composition of claim 17 wherein the article is selected from the group consisting of: construction materials, automobile interior parts, and toys.

16. (previously presented) The multi-layer polymer composition of claim 17 wherein the polymer composition is made by a process selected from the group consisting of: coextrusion and lamination.

17. (previously presented) A multi-layer polymer composition comprising

- (1) a first outer layer,
- (2) a second outer layer and
- (3) an adhesive tie layer between the two outer layers,

wherein the first outer layer comprises a polar polymer, the second outer layer comprises a non-polar polymer, and the adhesive tie layer comprises (a) a copolyester elastomer that is totally or partially miscible with the polar polymer of the first outer layer, (b) a non-polar polymer that is totally or partially miscible with the non-polar polymer of the second outer layer and (c) a copolymer selected from the group consisting of acid copolymers or anhydrides derived from acid copolymers wherein said copolymers or anhydrides derived from acid copolymers are totally or partially miscible with the non-polar polymer of the second outer layer.

18. (previously presented) The multi-layer polymer composition of claim 17 wherein component (c) comprises maleic-anhydride-grafted polypropylene.

19. (cancelled)

20. (cancelled)

21. (cancelled)

22. (cancelled)

23. (previously presented) A multi-layer polymer composition having

- (1) a first outer layer having an interior surface and an exterior surface,
- (2) a second outer layer having an interior surface and an exterior surface and
- (3) an adhesive tie layer disposed between the two outer layers,

Application No.: 10/683827  
 Docket No.: AD6944USNA

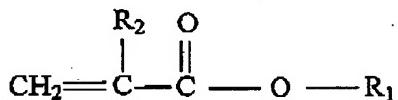
Page 4

wherein the first outer layer comprises a polar polymer, the second outer layer comprises a non-polar polymer and the adhesive tie layer contacts the interior surface of the first outer layer and the interior surface of the second outer layer, the adhesive tie layer comprising (a) a copolyester elastomer that is totally or partially miscible with the polar polymer of the first outer layer, (b) a non-polar polymer that is totally or partially miscible with the non-polar polymer of the second outer layer and (c) a copolymer that contains functional groups capable of reaction with the functional end groups of component (a) and that is totally or partially miscible with the non-polar polymer of the second outer layer.

24. (previously presented) The multi-layer polymer composition of claim 23 wherein component (c) of the adhesive tie layer comprises an ethylene copolymer of the formula E/X/Y, wherein

E is the radical formed from ethylene and comprises about 40-90 weight % of the ethylene copolymer,

X is the radical formed from



wherein R<sub>1</sub> is an alkyl group with 1-8 carbon atoms,

R<sub>2</sub> is selected from the group consisting of H, CH<sub>3</sub> or C<sub>2</sub>H<sub>5</sub> and X comprises about 0-40 weight percent of the ethylene copolymer and

Y is selected from the group consisting of glycidyl methacrylate and glycidyl acrylate, and Y comprises 0.1-20 weight percent of the ethylene copolymer.

25. (previously presented) The multi-layer polymer composition of claim 23 wherein the adhesive tie layer comprises about 25-65% by weight component (a), up to 65% by weight component (b) and about 10-50% by weight component (c), wherein all percentages are based on the total weight of the adhesive tie layer.

26. (previously presented) The multi-layer polymer composition of claim 23 wherein the adhesive tie layer comprises about 25-65% component (a), about 25-65% by weight component (b) and about 10-50% by weight component (c), wherein all percentages are based on the total weight of the adhesive tie layer.

27. (previously presented) The multi-layer polymer composition of claim 23 wherein the first outer layer comprises a polar polymer selected from the group consisting of: polyvinylchloride homopolymer and copolymers, acrylonitrile-butadiene-styrene (ABS),

Application No.: 10/683827

Docket No.: AD6944USNA

Page 5

polyvinylidene dichloride (PVDC), poly(ethylene terephthalate) (PET) homopolymer or copolymers, polyamides, polycarbonate, ethylene vinyl alcohol homopolymer and copolymers, acid copolymers, ionomers, liquid crystalline polymers, polyacetals, acetal copolymers, and polylactic acid.

28. (previously presented) The multi-layer polymer composition of claim 23 wherein the second outer layer comprises a non-polar polymer selected from the group consisting of: polypropylene homopolymer and copolymers, and polyethylene homopolymer and copolymers.

29. (previously presented) The multi-layer polymer composition of claim 23 wherein the copolyester elastomer comprises a segmented thermoplastic ether-ester elastomer exhibiting a Shore D hardness of about 55 or less and having soft segments comprising polytetramethylene glycol (PTMEG).

30. (previously presented) The multi-layer polymer composition of claim 23 wherein the first outer layer comprises PVC and the second outer layer comprises polypropylene homopolymer.

31. (previously presented) The multi-layer polymer composition of claim 23 wherein the multi-layer polymer demonstrates a peel strength as tested using ASTM D903-98 greater than about 5 lbs/in width (0.09 kg/mm width).

32. (previously presented) Exterior siding for buildings comprising the multi-layer polymer composition of Claim 23.

33. (previously presented) The exterior siding of Claim 32 wherein the first outer layer of said multi-layer composition comprises PVC and wherein said first outer layer comprises the exterior surface of the siding.

34. (previously presented) An article comprising the multi-layer polymer composition of Claim 23 wherein the article is selected from the group consisting of: construction materials, automobile interior parts, and toys.

35. (previously presented) The multi-layer polymer composition of Claim 23 wherein the polymer composition is made by a coextrusion process.